

REMARKS

This Amendment responds to the Office Action dated November 15, 2007, in which the Examiner rejected claims 1-3, 7, 11-13 and 17 under 35 U.S.C. § 102(e), and rejected claims 4-6, 8-10, 14-16 and 18-20 under 35 U.S.C. § 103.

Attached to this amendment is an Information Disclosure Statement to provide the Examiner with copies of the references cited on page one of the Specification.

Claims 1-2, 8 and 10 claim a multiplexing apparatus, and claims 11-12, 18 and 20 claim a multiplexing method. The multiplexing apparatus and method include generating a plurality of multiplexing data which describe a storage location of each data unit stored in a memory. The multiplexing instruction data is stored into the memory in an order that the plurality of data units are to be multiplexed. One multiplex stream is generated by reading the multiplexing instruction data sequentially from the memory and outputting the data unit corresponding to the multiplexing instruction data.

By having the multiplexing apparatus and method (a) generate a plurality of multiplexing instruction data describing the storage location of each data unit in the memory, (b) storing the multiplexing instruction data into the memory in an order that the data units are to be multiplexed, (c) generate a multiplexing stream by reading the multiplexing instruction data sequentially from the memory and (d) outputting a data unit corresponding to the multiplexing instruction data, as claimed in claims 1-2, 8, 10-12, 18 and 20, the claimed invention provides a multiplexing apparatus and method which reduces the processing burden to a CPU since the CPU does not have to transfer an instruction directly to a multiplexer at the time of transfer. The prior art does not show, teach or suggest the invention as claimed in claims 1-2, 8, 10-12, 18 and 20.

Claims 1-3, 7, 11-13 and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Robinette, et al.* (U.S. Publication No. 2002/0126711).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 102(e). The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, Applicant respectfully requests the Examiner withdraws the rejection to the claims and allows the claims to issue.

Robinette, et al. is directed to flexible re-multiplexing architecture [0027]. Re-multiplexing involves the selective modification of the content of a transport stream (TS) such as adding transport packets to a TS, deleting transport packets from a TS, rearranging the order of the transport packets in a TS and/or modifying the data contained in the transport packets [0025].

Thus, *Robinette, et al.* is directed to re-multiplexing or modification of the content of a transport stream. Nothing in *Robinette, et al.* shows, teaches or suggests multiplexing a plurality of elementary data streams to generate one multiplexed stream as claimed in claims 1-2, 8, 10-12, 18 and 20. Rather, *Robinette, et al.* is directed to re-multiplexing by selective modification of the content of a transport stream.

Furthermore, *Robinette, et al.* discloses a re-multiplexing operation as (1) acquiring the content information of the input, to-be-remultiplexed TSs, (2) reporting the content information to an operator so that the operator can formulate a user specification and (3) receiving a user specification for constructing the output re-multiplexed TS and dynamically constructing the re-multiplexed TS from the content of the input to-be-remultiplexed TS according to the user's specification [0094].

Thus, *Robinette, et al.* receives a user specification from an operator based upon the acquired content information in order to re-multiplex the acquired information. Nothing in

Robinette, et al. shows, teaches or suggests (a) generating a plurality of multiplexing instruction data which describes a storage location of each data unit, (b) storing the multiplexing instruction data into the memory in an order that the plurality of data units are to be multiplexed, (c) generating one multiplex stream by reading the multiplexing instruction data sequentially from the memory and (d) outputting the data unit corresponding to the multiplexing instruction data as claimed in claims 1-2 and 11-12. Rather, *Robinette, et al.* only discloses re-multiplexing the transport stream based upon the user's specification formulated by an operator.

Finally, *Robinette, et al.* discloses a processor 160 which estimates the departure time of the transport packet. The estimated departure time can be estimated from the receipt time of the transport packet and the known internal buffering delay at the re-multiplexing node 100. The processor 160 writes the expected departure time in the field 129-10 [0114], [0132].

Thus, *Robinette, et al.* is analogous to the prior art which supplies a data transfer command for the data stored in the RAM at the time to be output (Specification page 2 lines 4-6). In other words, like the prior art described in the Specification, *Robinette, et al.* determines the expected departure time of the transport packet. Nothing in *Robinette, et al.* shows, teaches or suggests generating the multiplexed stream by reading the multiplexing instruction data sequentially from the memory and outputting the data units corresponding to the (read) multiplexing instruction data as claimed in claims 1-2 and 11-12. Rather, *Robinette, et al.* discloses outputting the transport stream based upon an estimated departure time.

Since *Robinette, et al.* is directed to re-multiplexing a transport stream, i.e. selective modification of the content of a transport stream based upon a user specification input from an operator and output based upon an expected departure time, nothing in *Robinette, et al.* shows, teaches or suggests the primary features as claimed in claims 1-2 and 11-12 as discussed above.

Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 1-2 and 11-12 under 35 U.S.C. § 102(e).

Claims 3, 7, 13 and 17 recite additional features. Applicant respectfully submits that claims 3, 7, 13 and 17 would not have been anticipated by *Robinette, et al.* within the meaning of 35 U.S.C. § 102(e) at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 3, 7, 13 and 17 under 35 U.S.C. § 102(e).

Claims 4-6 and 14-16 were rejected under 35 U.S.C. § 103 as being unpatentable over *Robinette, et al.* in view of *Kelly, et al.* (U.S. Publication No. 2001/0036355).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, Applicant respectfully requests the Examiner withdraws the rejection to the claims and allows the claims to issue.

As discussed above, since nothing in *Robinette, et al.* shows, teaches or suggests the primary features as claimed in claims 1-2 and 11-12, Applicant respectfully submits that the combination of the primary reference with the secondary reference to *Kelly, et al.* will not overcome the deficiencies of the primary reference. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 4-6 and 14-16 under 35 U.S.C. § 103.

Claims 8-9 and 18-19 were rejected under 35 U.S.C. § 103 as being unpatentable over *Robinette, et al.* and further in view of *Dobson, et al.* (U.S. Patent No. 6,188,703).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for reasons which will be

set forth below, Applicant respectfully requests the Examiner withdraws the rejection to the claims and allows the claims to issue.

As discussed above, *Robinette, et al.* is directed to modification of the content of the transport stream known as re-multiplexing. The re-multiplexing is constructed according to a user specification formulated by an operator [0094]. The departure time is based upon an estimated departure time [0114].

Thus, nothing in *Robinette, et al.* shows, teaches or suggests (a) multiplexing a plurality of elementary data streams to generate a multiplexed stream, (b) generating multiplexing instruction data which describe a storage location of each data unit in a memory, (c) storing the multiplexing instruction data into the memory in the order that the plurality of data units are to be multiplexed, (d) generating a multiplex stream by reading the multiplexing instruction data sequentially from the memory and (e) outputting the data unit corresponding to the (read) multiplexing instruction data as claimed in claims 8 and 18. Rather, *Robinette, et al.* is directed to re-multiplexing based upon a user specification formulated by an operator and output at an estimated departure time.

Dobson, et al. appears to disclose a FIFO buffer 32 which signals a MUX microprocessor 22 when sufficient video data is in a buffer 32 (Col. 3, line 65 – Col. 4, line 3). Nothing in *Dobson, et al.* shows, teaches or suggests the primary features as claimed in claims 8 and 18. Rather, *Dobson, et al.* only discloses signaling when a buffer contains sufficient video data.

Furthermore, *Dobson, et al.* discloses that a processor 22 is alerted when there is a video start-code in a transport packet payload that is about to be read (Col. 4, lines 11-13). Thus, nothing in *Dobson, et al.* shows, teaches or suggests multiplexing instruction data describing a

storage location of each data unit as claimed in claims 8 and 18. Rather, *Dobson, et al.* only discloses when there is a start code in the transport packet.

A combination of *Robinette, et al.* and *Dobson, et al.* would merely suggest that in the re-multiplexer of *Robinette, et al.* that when a buffer has sufficient video data, indicating the same to a microprocessor during the re-multiplexing operation of *Robinette, et al.* Thus, nothing in the combination of the references shows, teaches or suggests (a) generating a plurality of multiplexing instruction data which describes a storage location of each data unit, (b) storing multiplexing instruction data in an order that the data units are to be multiplexed, (c) reading the multiplexing instruction data sequentially from a memory and (d) outputting the data unit corresponding to the (read) multiplexing instruction data as claimed in claims 8 an 18. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 8 and 18 under 35 U.S.C. § 103.

Claims 9 and 19 recite additional features. Applicant respectfully submits that claims 9 and 19 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Robinette, et al.* and *Dobson, et al.* at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 9 and 19 under 35 U.S.C. § 103.

Claims 10 and 20 were rejected under 35 U.S.C. § 103 as being obvious over *Robinette, et al.*, in view of *Zaun, et al.* (U.S. Publication No. 2001/0024456).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, Applicant respectfully requests the Examiner withdraws the rejection to the claims and allows the claims to issue.

As discussed above, *Robinette, et al.* is merely directed to selective modification of the content of a transport stream known as re-multiplexing [0025], constructing the re-multiplexing based upon a user specification formulated by an operator [0094] and estimating the departure time of the transport packet based upon the expected departure time [0114]. Thus, nothing in *Robinette, et al.* shows, teaches or suggests (a) multiplexing a plurality of elementary data streams to generate a plurality of multiplexed streams, (b) generating a plurality of multiplexing instruction data which describe a storage location of each data unit, (c) storing the multiplexing instruction data into the memory in an order that the plurality of data units are to be multiplexed, (d) generating a plurality of multiplexed streams by reading the multiplexing instruction data sequentially from the memory and (e) outputting the data units corresponding to the (read) multiplexed instruction data as claimed in claims 10 and 20.

Zaun, et al. appears to disclose an output processor 124 which generated two or more output streams from data stored in packet buffers [0035]. The output processor includes a bus control logic 400 that controls much of the output processors operation [0036]. The bus control logic 400 generally controls the manner in which the packets are read from the input and insert packet buffers 104, 112 [0038].

Thus, *Zaun, et al.* only discloses outputting streams of data by reading packets from the packet buffers. Nothing in *Zaun, et al.* shows, teaches or suggests the primary features as claimed in claims 10 and 20. Rather, *Zaun, et al.* only discloses a buff control logic which controls the manner that the packets are read from the packet buffers.

Additionally, *Zaun, et al.* only discloses reading the packets in three phases [0038]. The order that the data is read is based upon the data's priority [0039].

Thus, nothing in *Zaun, et al.* shows, teaches or suggests generating a plurality of multiplexing instruction data, storing thereof and generating multiplexing streams by reading the multiplexing instruction data sequentially from a memory as claimed in claims 10 and 20. Rather, *Zaun, et al.* only discloses reading the data from the memories based upon priorities.

A combination of *Robinette, et al.* and *Zaun, et al.* would merely suggest to output the modified transport streams (re-multiplexed transport stream) based upon an estimated departure time as taught by *Robinette, et al.* and in addition based upon priority as taught by *Zaun, et al.* Thus, nothing in the combination of the references shows, teaches or suggests the primary features as claimed in claims 10 and 20. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 10 and 20 under 35 U.S.C. § 103.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus, it now appears that the application is in condition for a reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

CONCLUSION

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to Deposit Account No. 50-0320.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 50-0320.

Respectfully submitted,

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